Atty. Docket No. PIA31217
Serial No: 10/764,637

Amendments to the Claims

Please add Claim 11 and amend the Claims as follows:

1. (Currently Amended) A method for forming a semiconductor device isolating barrier comprising:

forming a pad oxide layer and a ~~first~~ nitride layer on a semiconductor substrate;

forming a trench region by etching the pad oxide layer and the ~~first~~ nitride layer;

forming spacers at sidewalls of the etched pad oxide layer and the etched ~~first~~ nitride layer;

forming a ~~first~~ trench by etching the semiconductor substrate using the spacers and the etched ~~first~~ nitride layer as a mask; and

after forming a liner oxide layer and ~~an~~ a trench oxide layer filling the ~~first~~ trench, forming the device isolating barrier by flattening the liner oxide layer and the trench oxide layer to expose the etched ~~first~~ nitride layer.

2. (Currently Amended) A method as defined in claim 1, wherein a thickness of the ~~first~~ nitride layer ranges from about 500 to about 1000 Å.

3. (Currently Amended) A method for forming a gate electrode of a semiconductor device comprising:

forming a pad oxide layer and a first nitride layer on a semiconductor substrate;

forming a trench region by etching the pad oxide layer and the first nitride layer;

forming spacers at sidewalls of the etched pad oxide layer and the etched first nitride layer;

forming a first trench by etching the semiconductor substrate using the spacers and the etched first nitride layer as a mask;

after forming a liner oxide layer and ~~an~~ a trench oxide layer filling the trench, forming a device isolating barrier by flattening the liner oxide layer and the trench oxide layer to expose the etched first nitride layer;

after forming a second nitride layer on top of the etched first nitride layer, forming a second trench by etching the second nitride layer and the etched first nitride layer;

after a conducting layer is formed to fill the second trench, flattening the conducting layer to expose the second nitride layer; and

forming the gate electrode by removing the second nitride layer and the etched first nitride layer.

4. (Original) A method as defined in claim 3, wherein a thickness of the first nitride layer ranges from about 500 to about 1000 Å.

5. (Original) A method as defined in claim 3, wherein a thickness of the second nitride layer ranges from about 1000 to about 1500 Å.

6. (Original) A method as defined in claim 3, wherein ~~an etching gas used in removing~~ the second nitride layer and the etched first nitride layer ~~has~~ comprises etching with an etching gas having a greater than a 7:1 selectivity of the first and ~~the~~ second nitride layers with respect to the oxide layer.

7. (Original) A method as defined in claim 6, wherein the etching gas ~~is~~ comprises a mixture of CO, CHF_3 and C_4F_8.

8. (Original) A method as defined in claim 3, ~~wherein~~ comprising depositing the conducting layer ~~deposited to fill the second trench is formed~~ through a LPCVD process at about 550 to about 650° C.

9. (Original) A method as defined in claim 8, wherein a thickness of the deposited conducting layer ranges from 2000 to 5000 Â.

10. (Original) A method as defined in claim 3, wherein flattening the conducting layer comprises performing a chemical mechanical polishing process, and wherein a thickness of the nitride layer left after the flattening process ranges from about 10 to about 90% of a thickness of the nitride layer before the flattening.

11. (New) The method of Claim 1, wherein said step of forming a trench region comprises the steps of:

forming a photoresist layer on the nitride layer;

removing a portion of the photoresist layer where a trench will be formed; and

etching the nitride layer and the pad oxide layer using the photoresist layer as a mask.

12. (New) The method of Claim 1, wherein said step of forming spacers comprises the steps of:

after forming the trench region, forming a spacer oxide layer in the trench region and on the nitride layer; and

etching back the spacer oxide layer to leave the spacers at the sidewalls of the etched pad oxide layer and the etched nitride layer.